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WORKING CAPITAL MANAGEMENT PERFORMANCE OF FIRMS LISTED ON BURSA MALAYSIA

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ABSTRACT

This research paper investigated the working capital management (WCM) performance of 252 firms listed on Bursa Malaysia and identifed practices and policies for WCM to enhance efficiency in cash flow from operations. It also determined whether the size, profitability, inventory, and the current assets financing policy could enhance the WCM performance. The variables were 'Cash Conversion Efficiency' (CCE), a financial performance measure, and 'Overall Working Capital Performance Ranking', a non-financial performance indicator. The findings revealed that the inventory, size, and profitability had significantly influenced the WCM performance. It was also identified that there was a mild positive relationship between the aggressive method of working capital financing and the CCE; and the ideal WCM practices and working capital (WC) financing policies to be adopted in firms to maximise the wealth of the shareholders.

Keywords: *Working capital, finance management, performance management, firms listed on the Bursa Malaysia, current assets financing policies, benchmarking, working capital practices.*

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INTRODUCTION

Capital is an important economic resource for any developing nation in which its proper utilization plays a vital role to promote and enhance growth rate. Corporate firms use capital as their principal input which contributes significantly to their nations' progress and development. While it is evident that corporate financial performance is iminent for national progress, many researchers concluded that the financial performance or failure of any firm is mostly influenced by the working capital management practices (WCMP) adopted by the firm (Smith, 1980; Bilderbeek *et.al.,* 1999; Shin and Soenen, 2000; Shamser *et.al.,* 2001; Havoutis, 2003).

The WCMPs adopted by the management have their impact on liquidity and profitablity of the firm. But studies in the past provided evidence on confliting relationship between liquidity and profitability (Shin and Soenen, 1998; Deloof, 2003; Raheman and Nasr, 2007). The relationship between the size of the firms and their profitability has been considered in several studies, which reveal that large firms can efficiently utilise the available WC more efficienly than smaller firms (Vijayakumar and Venkatachalam, 1996; Raheman and Nasr, 2007).

Given, WCM is more central from the perspectives of corporate financial management and national economy. The aim of any corporate finance management is to maximize the wealth of its shareholders which is normally represented through the market value of the share price of the firm. As such, an efficient WCM has the tendency to increase the cash flow, enable timely debt repayment, minimise the cost of capital and, thereby add value to shareholders' wealth (Anand, 2001; Howorth and Westhead, 2003; Deloof, 2003; Afza and Nazir, 2007).

Most studies on WCM investigate the impact of independent variables: inventory, debtors, current ratio and debt ratio, on the firms' profit; and note that 'profit maximisation' is the firms' ultimate objective. However, contrary to this claim, researchers and corporate finance managers support 'wealth maximisation' as the ultimate objective of any firm which is represented by its the market share price. They mantain that the share value is significantly influenced by the cash flow generated through the operations of the firm.

Therefore, to clear these contrary ideas, this paper investigated the WCM performance of 252 Malaysian firms and the factors that affect their performances. It would also identify the WCMPs which were generally used, thus most practised, to enhance operational efficiency in cashflow from the operations.

The study's objectives are below:

1. To investigate whether the performance of WCM is affected by the size of the firm, profitability and inventory.

2. To realize the relationship between the method of WC financing and the WCM performance of the randomly selected firms listed on Bursa Malaysia (formerly known as the Malaysian Stock Exchange).

3. To identify the best WCMPs that enhance operational efficiency in cashflow from operations for the said firms.

4. To compute and develop the national industry averages of 'Cash Conversion Efficiency'(CCE) and 'Days of Working Capital' (DWC) as benchmarks for the said firms for better WCM performance comparison.

LITERATURE REVIEW

The success or failure of any firm is significantly influenced by its WCM performance. This is very important from the perspective of corporate finance managers since a large portion of their time is allocated to WCM (Rao, 1989; Lamberson, 1995; Anand, 2001; Sathyamoorthy, 2002). Generally, investment in current assets comprises more than fifty percent of the total assets (Kersner, 2001; Sagner, 2001; Deloof, 2003). Unlike non-core current assets, investment in current assets cannot be eliminated by renting or leasing as there is a close and direct relationship between the growth in sales volume and the need for additional investment in current assets (Sathyamoorthy, 2002).

The size of the firm appears to have an impact on the WCM performance. Lamberson (1995), while analysing the changes in WC capital of small firms in the US in relation to changes in economic activity, concludes that unlike large firms, WCM practices of small firms do not follow the commonly held expectations. Pinches (1990) highlights that by virtue of their size, large firms can afford to allocate more resources and expertise to manage their working capital. Their size also creates an advantage over the economics scale. While long term capital invested in non-core current assets provide productive capacity, the WC employed makes the use of the capacity possible (Vijayakumar and Venkatachalam, 1996). It thus implies that large firms may use the available WC better than the smaller firms, which may make them more productive.

Peel and Wilson (1996) suggest the importance of further empirical studies on WCM in relation to the size of firms to provide a new insight on specific problems faced by small firms and their needs. An examination of WCM routines of a large random sample of small firms based in the UK reveals considerable variability in the WCM routines (Howorth and Westhead, 2003). A study on Brazilian listed firms used 'Return on Total Assets'(ROA) and 'Return on Capital Employed' (ROCE) as dependent variables and examined their relationship with several independent variables such as cash conversion efficiency, debt ratio, days of working capital, days receivable and days inventory. They reveal that inventory has negative relationship with ROA but has no statistical evidence on ROE improvement (Ching *et.al.,* 2011). Similarly, a study on 263 Indian listed firms confirms that ROA and inventory are negatively correlated (Sharma and Kumar, 2011) which implies that the size of the firm may have positive relationship to the WCM performance.

A large number of corporate failures have direct linkages to the inability of the corporate financial managers to properly plan and control their current assets and current liabilities (Smith,1973; Anand, 2001). While there are various reasons to explain corporate failure or performance, a study in Tanzanian firms reveals that the qualities of WC investment policies adopted by the firms significantly influence their returns on investment (Bilderbeek *et.al.*, 1999). WCM is concerned with managing all components of the firm's current assets and liabilities a continual process consuming large part of financial manager's time because of continual changes in these components (Cooley, 1994; Lamberson, 1995).

In the same vein, the way in which the WC is managed tends to have significant impact on both liquidity and profitabilty as well as its risk (Smith, 1980; Anand, 2001) but it is important for a trade off between the dual goals of WCMP (Shin and Soenan, 1998). Studies in the past reveal that larger cash conversion cycle or larger investment in working capital tend to reduce the profitability of the firm (Deloof, 2003; Raheman and Nasr, 2007). On the contrary, too little working capital employed in the firms may tend to create difficulties in smooth operations, thereby reduce the profitability (Van Horne and Wachowicz, 2004). There is a need for the corporate finance manager, based on his experience, to continually review the WC invested in individual components of current assets as well in total. Singh and Pandey (2008) provide evidence that the size of the inventory directly affects working capital and WCMP. They also suggest that inventory, being the major component of working capital, is important to be controlled carefully due to its inverse relationship with profitability.

Additionally, WCM plays a critical role in a firm's quest to maximise the shareholders' value (Howorth and Westhead, 2003; Deloof, 2003; Afza and Nazir, 2007). Havoutis (2003) advocates that good cash management practices in normal circumstances could lead to optimal management of short term assets and efficient use of WC to maximise the wealth of the investors. Similarly, Hall (2002) points out that improved WCMP leads to increased shareholder value because it enables the firm to generate more profit with an optimum capital. A few decades ago, turnover was used to measure the performance of firms and later on profit replaced turnover (Rosen, 2001). But it is now recognised that maximising the cash flow is another related way of increasing the shareholder value (Havoutis, 2003). Meanwhile Sagan (1991) argues that even though the basic working capital ratios are important to financial analysts and creditors, the financial manager's primary concern from the operational point of view is with current cash flows and expected future cash flows. Ultimately, efficient WCM enables more cash flow to repay debt as well as increases share values to reward investors.

The method of current assets financing has also been proven to have an influence on the financial performance of the firms. Weinraub and Visscher (1998) describe aggressive financing method results in the capital being minimised in current assets versus long-term investments with the expectation of higher profiability and greater risk. On the contrary,

conservative policy places a greater proportion of capital in liquid assets, but at the sacrifice of some profitability. Rafuse (1996) argues that an attempt to improve WC by delaying payments to creditors is an ultimately damaging practice, both to its practitioner and the economy as a whole.

A study by Rafuse (1996) also discloses that those SMEs in the UK are effectively providing £10 billion of net funding to their larger customers due to late payment of debtors account. An examination of 208 public limited firms listed on the Karachi Stock Exchange reveals negative relationship between working capital policies and profitability (Afza and Nazir, 2007). In contrast, Boisjoly (2009), in his examination of the effect of aggressive working capital policy on financial ratios, found that the cash flow per share significantly improved with the aggressive management of the working capital, which eventualy increase the productivity.

METHODOLOGY

This study investigated the WCM performance of 252 firms listed on Bursa Malaysia. It is to note that there were nearly 1,000 listed firms on this Bursa on 9th February, 2007. The relevant annual financial statements between 2001 and 2005 were downloaded from the Bursa's website. The details of cash flow from operations, current assets, current liabilities, fixed assets, inventories and turnover of the concerned firms in that five years were analysed.

MEASUREMENT OF VARIABLES

The variables used in this study are described below.

Dependent Variables

The dependent variables were the 'CCE', a financial performance measure, and 'Overall Working Capital Performance Ranking', a non-financial performance indicator to measure the performance of the WCM in the firms studied. The 'Overall Working Capital Performance Ranking' indicator is an integrated measure which is computed using all the components of current assets and current liabilities. Unlike traditional

measures, this study's integrated approach considered the cash flow from operations and turnovers of the firms. The overall rank of the working capital performance of each firm was based on its five-year average performance and treated as dependent variable in Model-I while the five-year average of CCE of each firm was a dependant variable in Model-II. Then, in Model-III, the relation between the current assets financing policy and CCE were studied.

Independent Variables

The size of the firms was measured by two size parameters: the fixed assets and the net worth of the concerned firm (Sinason *et.al.* 2001). In Model-I and Model-II, the five-year average of size, inventories and profitability of each firm were the independent variables.

PERFORMANCE MEASURE CRITERIA

The 'Cash Conversion Efficiency' (CCE), a general financial perfomance measure, in Model-I while the 'Overall Performance in Working Capital Ranking', a non-financial performance indicator (which was jointly developed by 'REL Consultancy' group and 'CFO' Europe) in Model-II were the performance criteria to measure the performance on a five-year average.

The overall ranking then combined CCE and DWC criteria. The two measures weighted equally.

Overall rank = (Highest overall CCE-Company CCE)/ (Highest overall CCE-Lowest overall CCE) + (Lowest overall DWC–Company DWC) / (Lowest overall DWC- Highest overall DWC)

Whereas,

1. DWC = (receivables+inventories-payables)/ (sales/365 days)

   If the payable exceeds the receivables and inventory, DWC is negative, which implies that the company may be following the strategy of converting inventory as quickly as possible, and paying current

liabilities as late as possible without involving intangible costs of stretching current liabilities.

2. CCE = Cash flow from operations / Net sales

The 'overall rank' measure is currently used by CFO Europe Magazine and REL Consultancy Group to survey, evaluate and rank the multinatinal firms' performance every year.

THEORETICAL FRAMEWORK

Three models, Model-I, Model-II and Model-III, were used to test the relationship of the variables. Model-I was developed to determine the relationship between the WCM performance rank and the independent variables. Then Model-II was developed to determine the relationship between the 'CCE' and the independent variables. While Model-III which was adapted from Anand (2001) was used to study the relationship between DWC and CCE and to determine the ideal method of WC financing.

Model-I

Model-I was developed in this test to investigate the impact of the size of firm, inventory, and profitability on the WCM performance. The WCMPs adopted by the management have their impact on liquidity and profitablity of the firm. Studies in the past provided evidence on confliting relationship between liquidity and profitability (Shin and Soenen, 1998; Deloof, 2003; Raheman and Nasr, 2007). The relationship between the size of the firms and their profitability has been considered in several studies, which reveal that large firms can efficiently utilise the available WC more efficienly than smaller firms (Vijayakumar and Venkatachalam, 1996; Raheman and Nasr, 2007).

The following is the the regression equation for Model-I, the OLS regression model, which was developed. The Regression equation is $\hat{y} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$

Where,
$\hat{y}$ = overall WCM performance rank
x_1 = rank of size of assets
x_2 = rank of size of net worth
x_3 = rank of profit
x_4 = rank of inventory

To test whether there is a linear relationship between $\hat{y}$ and the independent variables.
The hypotheses are,
$H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$
H_A : At least one β_i is not zero

Model-II

On the similar line to Model-I, the study's Model-II was framed to study the relationship between the independent variables and the CCE. To investigate the impact of size of the firm, inventory, and profitability on the performance in WCM i.e. CCE, the following OLS regression model was developed:

Regression equation is $\hat{y} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$
Where,
$\hat{y}$ = rank of CCE
x_1 = rank of size of assets
x_2 = rank of size of net worth
x_3 = rank of profit
x_4 = rank of inventory

To test whether there is a linear relationship between $\hat{y}$ and the independent variables.
The hypotheses are:
$H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$
H_A : At least one β_i is not zero

Model-III

Model-111 was adopted from Anand (2001) to determine the ideal method of WC financing. WCMPs adopted by the firms vary from nation to nation and between industries within the same nation (Belt and Smith, 1991). Rafuse (1996) argues that adopting aggressive methods to finance WC requirements may be beneficial to an individual firm but injurious to the economy as a whole. Studies in the past revealed that the WC financing method adopted by the firms significantly impacted their financial performance (Smith 1980; Bilderbeek *et.al.,* 1999; Shin and Soenen 2000; Shamser *et.al.,* 2001; Havoutis 2003). An analysis of all DWC computed and shown in Annexure-I revealed that among the 252 firms studied, there were 101 firms deployed aggressive methods to finance their WC. The relation between CCE and DWC was further assessed with the help of Karl-Pearson's bivariate correlation coefficient and its significance to capture the dynamics of trade-off.

STATISTICAL RESULTS AND FINDINGS

Model-I

Table 1: Model-I Multiple Regression Results

Dependent Variable: Overall Performance in Working Capital Management Method: Least Squares Sample: 1 252 Included observations: 252				
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
C	94.24382	10.66579	8.836085	0.0000
ASSETS	0.510637	0.099900	5.111468	0.0000
WORTH	-0.257496	0.110392	-2.332554	0.0205
PROFIT	0.171827	0.070617	2.433217	0.0157
INVENTORY	-0.169979	0.063308	-2.684941	0.0077

R-squared	0.172924	Mean dependent var	126.5000
Adjusted R-squared	0.159530	S.D. dependent var	72.89033
S.E. of regression	66.82379	Akaike info criterion	11.26164
Sum squared resid	1102958.	Schwarz criterion	11.33167
Log likelihood	-1413.966	Hannan-Quinn criter.	11.28982
F-statistic	12.91058	Durbin-Watson stat	1.991309
Prob(F-statistic)	0.000000		

The regression equation is

$$\hat{y} = 94.243 + 0.511\ x_1 - 0.257\ x_2 + 0.172\ x_3 - 0.170\ x_4$$

standard error	(10.666)	(0.100)	(0.110)	(0.071)	(0.063)
t-statistic	(8.836)*	(5.111)*	(-2.333)*	(2.433)*	(-2.685)*

* significant at 5% level.

In the test, the values of the t-statistics showed that all independent variables were significant contributors to dependent variable showing that the size of fixed assets and profitability of the firm positively contributed to the WCM performance, whereas the net worth and inventory size contributed negatively.

Model-II

Table 2: Model-II Multiple Regression Results

Dependent Variable: CCE Method: Least Squares Sample: 1 252 Included observations: 252				
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
C	15.79786	8.247152	1.915553	0.0566
ASSETS	0.314864	0.077246	4.076106	0.0001
WORTH	0.124268	0.085359	1.455828	0.1467
PROFIT	0.358860	0.054604	6.572092	0.0000
INVENTORY	0.077124	0.048952	1.575492	0.1164

R-squared	0.505499	Mean dependent var	126.5000
Adjusted R-squared	0.497490	S.D. dependent var	72.89033
S.E. of regression	51.67043	Akaike info criterion	10.74729
Sum squared resid	659448.8	Schwarz criterion	10.81732
Log likelihood	-1349.159	Hannan-Quinn criter	10.77547
F-statistic	63.12325	Durbin-Watson stat	2.084254
Prob(F-statistic)	0.000000		

The regression equation is

$$\hat{y} = 15.798 + 0.315\ x_1 + 0.124\ x_2 + 0.359\ x_3 + 0.077\ x_4$$

standard error	(8,247)	(0.077)	(0.085)	(0.055)	(0.049)
t-statistic	(1.916)	(4.076)*	(1.456)	(6.572)*	(1.575)

* significant at 5% level.

The values above indicate that x_1 and x_3 are significant, whereas x_2 and x_4 are insignificant contributors to the dependent variable. This shows the size of firms in terms of fixed assets and profitability did contribute to the CCE, while the net worth size and inventory did not.

Model-III

The coefficient correlation between the firm-wise CCE and firm-wise DWC which was – 0.1208 with respect to five years average was found to be significant at 5% level. This implies that firms with good CCE had adopted aggressive WC financing strategy by having negative days of WC.

DISCUSSION AND CONCLUSION

The impact of size, inventory and profitability of the firms on their performance in WCM were examined in Model-I. It showed that the size of the firm's fixed assets and profitability enhanced the performance in WCM. However, the size of the net worth and inventory contributed negatively. The impact of size, inventory and profitability of firms on their CCE were examined in Model-II which showed that the size of the fixed assets and

profitability significantly contributed to CCE. Nonetheless, the net worth and inventory did not affect the CCE.

In this study, the fixed assets and net worth size measures were the independent variables but Model-I and Model-II revealed that the fixed assets size contributed significantly to the WCM performance. This finding supports firstly, the argument that large firms can devote more resources and have an advantage of economies scale (Pinches, 1990). Secondly, it supports that the investment in non-core current assets provides productive capacity while the WC makes the utilization of the capacity possible (Vijayakumar and Venkatachalam, 1996). Finally, there is a significant relationship between 'Return on Assets' and working capital practices (Ching *et. al.*, 2011; Sharma and Kumar, 2011). Hence, in relation to our first objective, it was concluded that the firm's size of its fixed assets contributed positively to the WCM performance and CCE.

Unlike the size of the fixed assets measure, the net worth size measured in this test contributed negatively to the WCM performance in Model-I, and did not contribute to CCE in Model-II. This confirms the earlier finding that inventory has no statistical evidence on ROE improvement (Ching *et. al.*, 2011, Mohamad and Mohd Saad, 2010). Hence, it was concluded that the firm's net worth size did not contribute to the performance in WCM and CCE.

The impact of profitability of the firms on their performance in WCM and CCE was examined in Model-I and Model-II respectively, and the findings revealed that profitability contributed to both performance in WCM and CCE. This findings confirmed the earlier finding that WCM is one of the essential determinants of the firms' value because of its effects on profitability (Karaduman *et. al.*, 2011). Thus the conclusion was that the profitability of the firm did contribute to the performance in WCM and CCE.

The impact of the size of inventory on the performance in WCM examined in Model-I revealed that the inventory size negatively contributed to the performance in WCM. This discovery confirmed the earlier findings that the inventory directly affects the working capital and performance in WCM (Singh & Pandey, 2008). Hence it was concluded that inventory of the firm contributed negatively to performance in WCM .

The finding of Model-II revealed that there was no significant relationship between the inventory and the CCE. Despite the fact that the inventory had an inverse relationship with profitability, the value placed on closing inventory by the management would not affect the cash flow from the operation, which was demonstrated by Model-II. Therefore the conclusion was that the inventory of the firm did not contribute to the CCE.

Among the 252 major random sample firms studied and listed in Annexure-I, 101 firms (40.08%) had adopted aggressive methods to finance their WC requirements. The coefficient correlation between the firm-wise CCE and firm-wise DWC was -0.1208 at 5% level. It showed that the firm with high CCE had adopted aggressive financing strategy of having negative days of WC. This result was in agreement with the earlier findings that CCE significantly improves due to aggressive management of working capital (Boisjoly, 2009; Anand, 2001). Nonetheless, these findings contradicted Afza and Nazir (2007) that there is an inverse relationship between aggressive WC policies and accounting measures of profitability. Accordingly, it was concluded that, there was a relationship between the aggressive method of WC financing and the better performance in CCE, which responded to Objective 2.

An analysis of CCEs which was included in Annexure-I revealed that the CCE varied from 140.30 % to 74.82% with an industry average 9.55% between 2001 and 2005. It also disclosed that the DWC varied from 557 days to 1,456 days with an industry average of 45 days in the study period. It showed tht the average CCE and DWC models developed in this study seemed able to provide the yardsticks that enabled the firms listed on Bursa Malaysia to bench mark their WCM performance. As such, it is suggested that these industry average models of CCE and DWC be used as tools to evaluate the WCM performance of the firms listed on Bursa Malaysia by the bankers, financial institutions and other Government authorities when processing their applications to sanction WC or other loans.

It was also concluded that the large firms listed on Bursa Malaysia could utilize their WC more efficiently than the smaller firms to enhance their cash flow. In this case, the inventory had an inverse relationship with the WCM performance and as such an optimum investment in the inventory enabled the firms to enhance their profit directly but the cash flow indirectly.

The aggressive method of WC financing appeared to be an ideal method for firms listed on the Bursa to enhance the cash flow from their operations and thereby their market value.

The limitation of this study was that the DWC and CCE industry averages computed in this study were likely to change if there was a change in the period of study and the number of firms studied. It is suggested that Bursa Malaysia make it mandatory that all firms have their own formal corporate current assets financing polices as one of the prelisting requirements. Ultimately, capital is an important scarce economic resource and the efficient utilization of the available WC through prudent WCM practices which would contribute to the creation of the firms' value. The findings can be a useful insight into the WCM performance of firms for researchers, corporate finance managers and government regulatory bodies. This would enable them to achieve their combined corporate objective for the national progress and development.

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ANNEXURE- I: OVERALL PERFORMANCE RANK IN WCM BASED ON 2001 - 2005 AVERAGE

		Cash Conversion Efficiency		Days of Working Capital		
NO	COMPANY	AVERAGE	RANK	AVERAGE	RANK	OVERALL RANK
1	A-RANK BERHAD	0.50%	212	29.14	132	181
2	ABRIC BERHAD	10.71%	90	(85.89)	45	51
3	ADVANCED PACKAGING TECHNOLOGY (M) BHD	9.71%	96	(30.55)	80	77
4	ADVENTA BERHAD	11.49%	79	11.34	117	89
5	AHB HOLDINGS BERHAD	2.66%	189	95.01	177	200
6	AIC CORPORATION BERHAD	5.34%	155	(60.95)	54	86
7	AJIYA BERHAD	8.49%	113	86.97	174	159
8	ALUMINIUM COMPANY OF MALAYSIA BERHAD	5.57%	149	9.14	115	131
9	AMTEK HOLDINGS BERHAD	21.00%	40	2.61	105	45
10	AMWAY (MALAYSIA) HOLDINGS BERHAD	12.03%	75	(166.02)	26	36
11	APM AUTOMOTIVE HOLDINGS BERHAD	10.93%	87	33.84	139	111
12	APOLLO FOOD HOLDINGS BERHAD	17.27%	57	48.06	151	70
13	ASAS DUNIA BERHAD	22.25%	37	1213.76	251	250
14	ASIAN PAC HOLDINGS BERHAD	29.79%	25	538.27	245	228
15	ASIATIC DEVELOPMENT BERHAD	29.39%	26	184.94	215	71
16	ASTRO ALL ASIA NETWORKS PLC	16.34%	59	(386.98)	6	15
17	ATURMAJU RESOURCES BERHAD	18.14%	52	301.48	229	206
18	A & M REALTY BERHAD	9.60%	99	614.66	247	244
19	BASWELL RESOURCES BERHAD	7.23%	129	101.05	180	177
20	BERJAYA LAND BERHAD	28.65%	27	87.07	175	44
21	BERJAYA SPORTS TOTO BERHAD	10.69%	91	116.91	185	164
22	BINA PURI HOLDINGS BHD	-5.09%	234	(61.91)	52	162
23	BOUSTEAD PROPERTIES BERHAD	41.60%	11	(36.50)	74	19
24	BOX-PAK (MALAYSIA) BERHAD	9.98%	94	165.53	208	195
25	BSL CORPORATION BERHAD	24.91%	31	32.34	137	41
26	BURSA MALAYSIA BERHAD	50.44%	8	556.77	246	157
27	CHASE PERDANA BERHAD	5.88%	144	(557.49)	1	12
28	CHIN TECK PLANTATIONS BERHAD	32.48%	21	(90.32)	42	21
29	CHUAN HUAT RESOURCES BHD	-1.26%	221	8.55	113	180
30	CLASSIC SCENIC BERHAD	24.52%	33	155.61	205	87

31	CNI HOLDINGS BERHAD	15.83%	63	(0.71)	101	56
32	COCOALAND HOLDINGS BERHAD	-18.23%	243	63.03	163	232
33	COMINTEL CORPORATION BHD	6.34%	139	12.95	120	125
34	COMPUTER SYSTEMS ADVISERS (M) BERHAD	11.34%	81	128.80	193	167
35	COUNTRY VIEW BERHAD	-104.30%	252	390.37	238	251
36	CYCLE & CARRIAGE BINTANG BERHAD	5.18%	157	207.56	221	223
37	CYMAO HOLDINGS BERHAD	4.55%	164	291.00	226	230
38	DEGEM BERHAD	3.26%	181	186.92	217	224
39	DFZ CAPITAL BERHAD	-0.53%	217	(97.08)	41	109
40	DIALOG GROUP BERHAD	3.58%	177	79.04	171	189
41	DNP HOLDINGS BHD	6.60%	137	175.36	213	208
42	DOMINANT ENTERPRISE BERHAD	1.01%	204	38.08	142	182
43	DPS RESOURCES BERHAD	8.11%	118	8.54	112	116
44	DRB-HICOM BERHAD	8.52%	111	(21.91)	87	90
45	DUTCH LADY MILK INDUSTRIES BERHAD	7.96%	121	26.44	130	123
46	DXN HOLDINGS BHD	8.01%	119	12.89	119	117
47	D&O VENTURES BERHAD	15.99%	62	(31.87)	78	49
48	ECOFIRST CONSOLIDATED BHD	31.57%	23	77.53	169	38
49	EDARAN OTOMOBIL NASIONAL BERHAD	1.25%	201	311.35	231	235
50	EG INDUSTRIES BERHAD	1.83%	194	1.25	102	149
51	EMICO HOLDINGS BERHAD	16.83%	58	(197.48)	22	27
52	ENGLOTECHS HOLDING BHD	2.13%	192	166.74	210	221
53	EP MANUFACTURING BHD	5.86%	145	(69.39)	49	80
54	EUROSPAN HOLDINGS BERHAD	8.51%	112	(52.94)	58	67
55	EURO HOLDINGS BERHAD	1.89%	193	77.75	170	197
56	EVERMASTER GROUP BERHAD	-1.84%	223	327.81	235	239
57	E & O PROPERTY DEVELOPMENT BERHAD	-25.63%	248	146.65	203	243
58	FARLIM GROUP (MALAYSIA) BHD	5.41%	152	(46.43)	65	97
59	FARM'S BEST BERHAD	5.83%	146	(65.39)	51	83
60	FIAMMA HOLDINGS BERHAD	4.46%	166	(12.03)	94	124
61	FOCAL AIMS HOLDINGS BERHAD	9.26%	102	466.25	244	241
62	FOUNTAIN VIEW DEVELOPMENT BERHAD	-18.82%	244	667.43	248	247
63	FREIGHT MANAGEMENT HOLDINGS BERHAD	-2.01%	225	(2.13)	99	178
64	FSBM HOLDINGS BERHAD	-2.46%	227	65.47	164	203

65	FUTUTECH BERHAD	4.54%	165	3.53	106	137
66	GADANG HOLDINGS BHD	2.69%	187	192.90	219	225
67	GAMUDA BERHAD	8.57%	110	(44.96)	67	75
68	GE-SHEN CORPORATION BERHAD	4.91%	160	53.99	155	165
69	GEFUNG HOLDINGS BERHAD	7.31%	128	695.80	249	246
70	GENTING BERHAD	36.01%	17	(192.92)	23	13
71	GHL SYSTEMS BERHAD	35.76%	18	129.59	194	39
72	GLOMAC BERHAD	2.67%	188	(61.52)	53	108
73	GOLDIS BERHAD	-8.10%	238	(396.18)	5	35
74	GOODWAY INTEGRATED INDUSTRIES BERHAD	0.66%	209	28.15	131	179
75	GOPENG BERHAD	38.48%	15	(434.62)	4	3
76	GRAND CENTRAL ENTERPRISES BHD	18.94%	50	(206.46)	19	24
77	GUAN CHONG BERHAD	-0.01%	214	8.70	114	169
78	GUH HOLDINGS BERHAD	4.79%	161	88.96	176	187
79	GUOCOLAND (MALAYSIA) BERHAD	39.78%	14	20.45	125	23
80	HAI-O ENTERPRISE BERHAD	7.56%	126	69.50	166	152
81	HAISAN RESOURCES BERHAD	11.01%	86	(31.23)	79	64
82	HALIM MAZMIN BERHAD	38.17%	16	(136.90)	34	16
83	HAP SENG CONSOLIDATED BERHAD	7.14%	132	142.97	200	198
84	HARBOUR-LINK GROUP BERHAD	4.99%	158	37.83	141	150
85	HARN LEN CORPORATION BHD	20.78%	41	(155.73)	27	26
86	HI-CITY BIOSCIENCE GROUP BERHAD	3.06%	183	142.18	198	211
87	HIAP TECK VENTURE BERHAD	0.99%	205	38.11	143	184
88	HIROTAKO HOLDINGS BHD	31.59%	22	34.60	140	33
89	HUAT LAI RESOURCES BERHAD	10.80%	88	(38.65)	72	62
90	HUBLINE BERHAD	7.98%	120	(48.04)	63	78
91	HYTEX INTEGRATED BERHAD	13.91%	71	81.93	173	119
92	IBRACO BERHAD	-5.65%	236	227.51	224	234
93	IJM CORPORATION BERHAD	8.32%	115	194.74	220	209
94	INDUSTRONICS BERHAD	10.47%	92	68.05	165	134
95	INGRESS CORPORATION BERHAD	20.75%	42	(85.71)	46	34
96	INSAS BERHAD	-7.49%	237	836.78	250	248
97	INTI UNIVERSAL HOLDINGS BHD	25.19%	30	(213.19)	17	20
98	IOI CORPORATION BERHAD	19.02%	49	31.01	136	55
99	IQ GROUP HOLDINGS BERHAD	20.19%	45	128.70	192	103

100	JERASIA CAPITAL BERHAD	3.92%	173	16.47	121	143
101	JOHAN HOLDINGS BERHAD	1.64%	196	(113.27)	37	81
102	KBES BERHAD	14.96%	67	100.95	179	121
103	KECK SENG (MALAYSIA) BERHAD	4.34%	170	(99.09)	40	69
104	KEJURUTERAAN SAMUDRA TIMUR BERHAD	19.74%	47	(67.62)	50	37
105	KENMARK INDUSTRIAL CO. (M) BERHAD	18.91%	51	118.91	186	106
106	KFC HOLDINGS (MALAYSIA) BERHAD	9.43%	101	(29.42)	82	79
107	KHIND HOLDINGS BERHAD	3.03%	184	18.82	122	153
108	KIA LIM BERHAD	8.27%	116	(309.87)	11	25
109	KLCC PROPERTY HOLDINGS BERHAD	48.79%	9	(494.54)	3	1
110	KONSORTIUM LOGISTIK BERHAD	8.16%	117	(39.41)	71	82
111	KPJ HEALTHCARE BERHAD	10.74%	89	(81.23)	48	52
112	KUMPULAN EUROPLUS BERHAD	-71.49%	251	128.48	191	249
113	KUMPULAN HARTANAH SELANGOR BERHAD	-19.74%	245	(218.05)	16	168
114	KUMPULAN POWERNET BERHAD	11.29%	82	143.70	202	175
115	KWANTAS CORPORATION BERHAD	2.59%	190	(34.50)	75	122
116	KYM HOLDINGS BERHAD	7.34%	127	(507.81)	2	14
117	K & N KENANGA HOLDINGS BERHAD	-19.91%	246	1456.47	252	252
118	LADANG PERBADANAN-FIMA BHD	24.62%	32	163.20	207	94
119	LAFARGE MALAYAN CEMENT BHD	16.27%	60	11.76	118	59
120	LANDMARKS BERHAD	39.89%	13	(246.92)	15	8
121	LATITUDE TREE HOLDINGS BERHAD	8.82%	107	(8.97)	98	96
122	LB ALUMINIUM BERHAD	9.02%	106	129.77	195	186
123	LEN CHEONG HOLDING BERHAD	-3.51%	231	56.85	158	205
124	LEONG HUP HOLDINGS BERHAD	6.05%	142	(49.22)	62	91
125	LEWEKO RESOURCES BERHAD	25.53%	29	394.77	239	210
126	LIMAHSOON BERHAD	-2.84%	229	(32.15)	77	166
127	LINGKARAN TRANS KOTA HOLDINGS BERHAD	74.82%	1	(145.38)	31	2
128	LINGUI DEVELOPMENTS BERHAD	12.02%	76	(28.84)	83	61
129	LIPO CORPORATION BERHAD	12.91%	74	188.90	218	191
130	LKT INDUSTRIAL BERHAD	7.07%	133	180.29	214	207
131	LOH & LOH CORPORATION BERHAD	4.37%	169	(39.77)	70	112
132	LTKM BERHAD	8.69%	108	7.29	110	110
133	MAA HOLDINGS BERHAD	4.96%	159	51.69	153	163

134	MAGNA PRIMA BERHAD	-5.36%	235	79.70	172	220
135	MAHAJAYA BERHAD	-2.38%	226	(44.34)	68	151
136	MAH SING GROUP BERHAD	11.13%	83	112.53	184	155
137	MALAYSIAN MOSAICS BERHAD	-0.31%	215	(15.05)	93	156
138	MATRIX INTERNATIONAL BERHAD	7.75%	124	32.54	138	130
139	MBF HOLDINGS BERHAD	3.50%	179	(338.34)	10	28
140	MBM RESOURCES BHD	1.41%	198	(33.71)	76	135
141	MEASAT GLOBAL BERHAD	71.34%	2	5.02	107	6
142	MECHMAR CORPORATION (MALAYSIA) BERHAD	17.53%	53	(253.89)	13	22
143	MEDA INC. BERHAD	24.41%	34	132.32	197	73
144	MEDIA PRIMA BERHAD	11.79%	77	(383.56)	7	18
145	MENANG CORPORATION (M) BERHAD	-26.23%	249	(342.61)	9	136
146	MERCURY INDUSTRIES BERHAD	0.80%	207	45.72	148	188
147	MERGE ENERGY BHD	-0.48%	216	102.88	182	212
148	METAL RECLAMATION BHD	5.41%	153	(87.43)	44	68
149	METRO KAJANG HOLDINGS BERHAD	7.95%	122	61.76	162	142
150	MHC PLANTATIONS BHD.	60.28%	4	(154.38)	28	5
151	MIECO CHIPBOARD BERHAD	17.52%	54	157.29	206	139
152	MILUX CORPORATION BERHAD	14.68%	68	142.45	199	146
153	MINPLY HOLDINGS (M) BERHAD	-0.53%	218	45.88	150	194
154	MINTYE INDUSTRIES BHD	15.30%	66	354.20	236	227
155	MISC BERHAD	42.58%	10	(175.43)	25	11
156	MP TECHNOLOGY RESOURCES BERHAD	-49.01%	250	(211.16)	18	238
157	MUDA HOLDINGS BERHAD	6.24%	141	(51.42)	60	85
158	MUHIBBAH ENGINEERING (M) BHD	9.12%	103	(105.90)	39	50
159	MULPHA INTERNATIONAL BERHAD	10.05%	93	106.13	183	161
160	MULTI-CODE ELECTRONICS INDUSTRIES (M) BHD	11.65%	78	(17.67)	90	66
161	MULTI-PURPOSE HOLDINGS BERHAD	54.65%	6	(52.44)	59	10
162	MUTIARA GOODYEAR DEVELOPMENT BERHAD	-3.95%	232	30.41	134	201
163	MWE HOLDINGS BERHAD	5.95%	143	(20.64)	88	113
164	NAIM CENDERA HOLDINGS BERHAD	15.77%	64	2.54	104	58
165	NAIM INDAH CORPORATION BERHAD	9.05%	105	214.33	223	215
166	NESTLE (MALAYSIA) BERHAD	9.73%	95	(9.38)	97	88
167	NEW HOONG FATT HOLDINGS BERHAD	22.39%	36	38.26	144	48

168	NEXNEWS BERHAD	-12.96%	241	(153.80)	29	160
169	NGIU KEE CORPORATION (M) BERHAD	-1.96%	224	(46.10)	66	145
170	NIKKO ELECTRONICS BHD.	1.12%	203	51.63	152	190
171	NV MULTI CORPORATION BERHAD	8.33%	114	325.42	234	229
172	NWP HOLDINGS BERHAD	4.08%	171	292.48	227	231
173	OCB BERHAD	1.74%	195	186.10	216	226
174	OCI BERHAD	6.32%	140	56.56	157	154
175	ORIENTAL FOOD INDUSTRIES HOLDINGS BERHAD	14.23%	69	76.72	168	115
176	ORNASTEEL HOLDINGS BERHAD	11.47%	80	143.03	201	172
177	OSK HOLDINGS BERHAD	3.52%	178	(201.30)	21	42
178	PADINI HOLDINGS BERHAD	6.73%	136	45.87	149	140
179	PAOS HOLDINGS BERHAD	0.79%	208	56.31	156	193
180	PATIMAS COMPUTERS BERHAD	0.90%	206	(11.18)	95	148
181	PBA HOLDINGS BHD	41.52%	12	325.25	233	74
182	PDZ HOLDINGS BHD	6.89%	134	22.41	127	128
183	PENSONIC HOLDINGS BERHAD	0.54%	211	123.55	187	216
184	PENTAMASTER CORPORATION BERHAD	-4.04%	233	307.62	230	240
185	PERMAJU INDUSTRIES BERHAD	4.60%	162	(204.41)	20	40
186	PETRONAS DAGANGAN BHD	5.66%	147	(38.24)	73	99
187	PETRONAS GAS BERHAD	64.91%	3	(131.53)	35	4
188	PK RESOURCES BERHAD	7.22%	131	395.81	240	237
189	PLUS EXPRESSWAYS BERHAD	50.53%	7	214.16	222	30
190	PNE PCB BERHAD	1.25%	202	(42.43)	69	127
191	POH HUAT RESOURCES HOLDINGS BERHAD	5.58%	148	(11.06)	96	120
192	PRESTAR RESOURCES BERHAD	2.89%	186	42.26	146	170
193	PRIME UTILITIES BERHAD	-23.97%	247	6.16	109	233
194	PUBLIC PACKAGES HOLDINGS BHD	7.60%	125	(30.12)	81	93
195	PUTERA CAPITAL BERHAD	-13.21%	242	(177.24)	24	141
196	RANHILL BERHAD	2.42%	191	(112.57)	38	76
197	REX INDUSTRY BERHAD	0.66%	210	130.77	196	218
198	RHYTHM CONSOLIDATED BERHAD	-3.36%	230	364.87	237	242
199	RIVERVIEW RUBBER ESTATES BERHAD	33.32%	20	420.17	241	192
200	ROHAS-EUCO INDUSTRIES BHD	6.46%	138	(25.18)	84	105
201	SANBUMI HOLDINGS BERHAD	1.38%	199	124.66	188	213

202	SARAWAK CONCRETE INDUSTRIES BERHAD	-11.31%	240	460.81	243	245
203	SARAWAK OIL PALMS BERHAD	34.70%	19	(302.37)	12	9
204	SCOMI GROUP BERHAD	-0.60%	219	20.03	124	183
205	SEE HUP CONSOLIDATED BERHAD	8.61%	109	43.71	147	132
206	SELANGOR DREDGING BERHAD	1.35%	200	313.69	232	236
207	SHANGRI-LA HOTELS (MALAYSIA) BERHAD	20.09%	46	(150.38)	30	29
208	SHELL REFINING COMPANY (FEDERATION OF MALAYA) BERHAD	4.59%	163	29.94	133	147
209	SHL CONSOLIDATED BHD	3.85%	174	174.48	212	219
210	SIME DARBY BERHAD	5.52%	150	11.18	116	133
211	SMIS CORPORATION BERHAD	11.09%	84	24.79	129	101
212	SOUTH MALAYSIA INDUSTRIES BERHAD	9.55%	100	8.11	111	102
213	SPRITZER BHD	17.28%	56	102.41	181	107
214	STAMFORD COLLEGE BERHAD	-8.88%	239	(249.13)	14	65
215	STAR PUBLICATIONS (MALAYSIA) BERHAD	21.59%	38	232.85	225	158
216	STONE MASTER CORPORATION BERHAD	4.06%	172	57.22	159	171
217	SUIWAH CORPORATION BERHAD	5.41%	154	(23.51)	86	114
218	SUMATEC RESOURCES BERHAD	3.80%	175	154.13	204	214
219	SUNRISE BERHAD	23.56%	35	293.10	228	185
220	SYF RESOURCES BERHAD	3.32%	180	(60.57)	55	104
221	TAFI INDUSTRIES BERHAD	17.30%	55	6.09	108	54
222	TALAM CORPORATION BERHAD	-1.05%	220	(58.55)	56	138
223	TALIWORKS CORPORATION BERHAD	9.71%	97	126.00	189	176
224	TAMADAM BONDED WAREHOUSE BERHAD	13.69%	72	(381.92)	8	17
225	TA ANN HOLDINGS BERHAD	20.45%	43	(117.03)	36	31
226	TA ENTERPRISE BERHAD	55.66%	5	(143.68)	33	7
227	TECK GUAN PERDANA BERHAD	5.47%	151	(15.21)	92	118
228	TEXCHEM RESOURCES BERHAD	3.13%	182	(19.61)	89	129
229	TIEN WAH PRESS HOLDINGS BERHAD	14.05%	70	40.78	145	92
230	TIME DOTCOM BERHAD	13.41%	73	(89.58)	43	43
231	TONG HERR RESOURCES BERHAD	11.07%	85	(53.22)	57	57
232	TOP GLOVE CORPORATION BHD	9.66%	98	(15.49)	91	84
233	TOYOCHEM CORPORATION BERHAD	9.11%	104	1.67	103	100
234	TRANSMILE GROUP BERHAD	25.92%	28	127.41	190	60
235	TSR CAPITAL BERHAD	4.38%	168	171.38	211	217

236	UMW HOLDINGS BERHAD	5.20%	156	(49.92)	61	95
237	UNICO-DESA PLANTATIONS BERHAD	16.08%	61	(47.52)	64	47
238	UNISEM (M) BERHAD	7.85%	123	(143.76)	32	46
239	UNITED U-LI CORPORATION BERHAD	1.62%	197	166.49	209	222
240	UTUSAN MELAYU (MALAYSIA) BERHAD	6.84%	135	(25.06)	85	98
241	WAH SEONG CORPORATION BERHAD	4.39%	167	21.89	126	144
242	WANG-ZHENG BERHAD	0.10%	213	57.41	160	196
243	WCT ENGINEERING BERHAD	3.67%	176	57.93	161	174
244	WHITE HORSE BERHAD	19.27%	48	71.68	167	72
245	WONDERFUL WIRE & CABLE BERHAD	-2.57%	228	53.47	154	202
246	WONG ENGINEERING CORPORATION BERHAD	21.40%	39	(85.41)	47	32
247	WOODLANDOR HOLDINGS BHD	2.94%	185	95.87	178	199
248	WTK HOLDINGS BERHAD	15.66%	65	18.87	123	63
249	YEO HIAP SENG (MALAYSIA) BERHAD	7.23%	130	23.58	128	126
250	YINSON HOLDINGS BERHAD	-1.53%	222	(1.63)	100	173
251	YLI HOLDINGS BERHAD	20.25%	44	30.89	135	53
252	YTL CORPORATION BERHAD	30.78%	24	440.09	242	204
	AVERAGE	9.55%		45.15		